

March 21, 2016

Tom Moe
USS Corporation
P.O. Box 417
Mountain Iron, MN 55768


RE: Project: NPDES-Line 3 Wkly
Pace Project No.: 1262658

Dear Tom Moe:

Enclosed are the analytical results for sample(s) received by the laboratory on March 16, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Melisa M Woods
melisa.woods@pacelabs.com
Project Manager

Enclosures

cc: Terri Sabetti, NTS



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: NPDES-Line 3 Wkly

Pace Project No.: 1262658

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification # : 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

Oklahoma Department of Environmental Quality

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SAMPLE SUMMARY

Project: NPDES-Line 3 Wkly

Pace Project No.: 1262658

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1262658001	WS-002 Scrubber Make-Up	Water	03/16/16 09:55	03/16/16 14:05
1262658002	WS-003 Thickener Overflow	Water	03/16/16 09:45	03/16/16 14:05

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SAMPLE ANALYTE COUNT

Project: NPDES-Line 3 Wkly

Pace Project No.: 1262658

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1262658001	WS-002 Scrubber Make-Up	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	CSD	1	PASI-V
1262658002	WS-003 Thickener Overflow	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	CSD	1	PASI-V

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ANALYTICAL RESULTS

Project: NPDES-Line 3 Wkly

Pace Project No.: 1262658

Sample: WS-002 Scrubber Make-Up Lab ID: 1262658001 Collected: 03/16/16 09:55 Received: 03/16/16 14:05 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Lab Filtered Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Calcium, Dissolved	95.4	mg/L	5.0	0.29	10	03/16/16 16:49	03/17/16 10:30	7440-70-2	
Magnesium, Dissolved	220	mg/L	5.0	0.67	10	03/16/16 16:49	03/17/16 10:30	7439-95-4	
Total Hardness, Dissolved	1150	mg/L	100	50.0	10	03/16/16 16:49	03/17/16 10:30		
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	910	mg/L	20.0	0.89	10		03/17/16 23:01	14808-79-8	

Sample: WS-003 Thickener Overflow Lab ID: 1262658002 Collected: 03/16/16 09:45 Received: 03/16/16 14:05 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Lab Filtered Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Calcium, Dissolved	1030	mg/L	5.0	0.29	10	03/16/16 16:49	03/17/16 10:33	7440-70-2	
Magnesium, Dissolved	ND	mg/L	5.0	0.67	10	03/16/16 16:49	03/17/16 10:33	7439-95-4	
Total Hardness, Dissolved	2570	mg/L	100	50.0	10	03/16/16 16:49	03/17/16 10:33		
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	1810	mg/L	40.0	1.8	20		03/17/16 23:24	14808-79-8	

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QUALITY CONTROL DATA

Project: NPDES-Line 3 Wkly

Pace Project No.: 1262658

QC Batch: MPRP/6609

Analysis Method: EPA 200.7

QC Batch Method: EPA 200.7

Analysis Description: 200.7 MET Dissolved

Associated Lab Samples: 1262658001, 1262658002

METHOD BLANK: 297503

Matrix: Water

Associated Lab Samples: 1262658001, 1262658002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium, Dissolved	mg/L	ND	0.50	0.029	03/17/16 09:37	
Magnesium, Dissolved	mg/L	ND	0.50	0.067	03/17/16 09:37	

LABORATORY CONTROL SAMPLE: 297504

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium, Dissolved	mg/L	50	50.9	102	85-115	
Magnesium, Dissolved	mg/L	50	51.0	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 297505

297506

Parameter	Units	1262640001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium, Dissolved	mg/L	40.2	50	50	89.3	91.6	98	103	70-130	3	20	
Magnesium, Dissolved	mg/L	59.0	50	50	106	108	94	98	70-130	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: NPDES-Line 3 Wkly

Pace Project No.: 1262658

QC Batch: WETA/16018

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Associated Lab Samples: 1262658001, 1262658002

METHOD BLANK: 297824

Matrix: Water

Associated Lab Samples: 1262658001, 1262658002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.0	0.089	03/17/16 15:45	

LABORATORY CONTROL SAMPLE: 297825

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	48.0	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 297826

297827

Parameter	Units	1262561004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	121	250	250	382	382	104	104	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 297828

297829

Parameter	Units	1262585006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	34.7	500	500	532	531	99	99	90-110	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: NPDES-Line 3 Wkly

Pace Project No.: 1262658

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-V Pace Analytical Services - Virginia

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NPDES-Line 3 Wkly

Pace Project No.: 1262658

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1262658001	WS-002 Scrubber Make-Up	EPA 200.7	MPRP/6609	EPA 200.7	ICP/5012
1262658002	WS-003 Thickener Overflow	EPA 200.7	MPRP/6609	EPA 200.7	ICP/5012
1262658001	WS-002 Scrubber Make-Up	EPA 300.0	WETA/16018		
1262658002	WS-003 Thickener Overflow	EPA 300.0	WETA/16018		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A

Required Client Information:

Company:	USS Corporation
Address:	P.O. Box 417
	Mt. Iron, MN 55768
Email:	
Phone:	
Requested Due Date:	

Section B

Required Project Information:

Report To:	Tom Moe
Copy To:	
Purchase Order #:	
Project Name:	NPDES-LINE 3 Wky
Project #:	

Section C

Invoice Information:

Attention:	
Company Name:	
Address:	
Phone:	
Requested Due Date:	

W0#: 1262658

PM: MMW Due Date: 03/30/16

CLIENT: USS CORP

Page: 1 of 1

ITEM #

SAMPLE ID
One Character per box.
(A-Z, 0-9 / -)

MATRIX
Drinking Water
Waste Water
Product
Soil/Solid
Oil
Wipe
Air
Other
TSSs

CODE
DW
WW
P
SL
OL
WP
AR
OT
TS

MATRIX CODE (see valid codes to left)

SAMPLE TYPE (G=GRAB C=COMP)

COLLECTED		START		END	
DATE	TIME	DATE	TIME	DATE	TIME

SAMPLE TEMP AT COLLECTION

OF CONTAINERS

Unpreserved

H2SO4

HNO3

HCl

NaOH

Na2S2O3

Methanol

Other

LAB FILTERED: SO4

Lab FILTERED: Ca,Mg,Hard

Residual Chlorine (Y/N)

LELF

LELF

PRINT Name of SAMPLER:	Paul Moe
SIGNATURE of SAMPLER:	Paul Moe
DATE Signed:	3-16-16
TEMP in C	
Received on Ice (Y/N)	
Custody Sealed Cooler (Y/N)	
Samples Intact (Y/N)	

Paul Moe 3-16-16 14:05 LMF 3-16-16 14:05 14 4



Document Name:
Sample Condition Upon Receipt Form
Document No.:
F-VM-C-001-Rev.09

Document Revised: 23Feb2015
Page 1 of 1
Issuing Authority:
Pace Virginia, Minnesota Quality Office

Sample Condition
Upon Receipt

Client Name:

Project #:

WO#: 1262658



Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client
☐ Commercial ☐ Pace ☐ Other:

Tracking Number:

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No

Seals Intact? ☐ Yes ☒ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other:

Temp Blank? ☒ Yes ☐ No

Thermometer Used: ☒ 140792808

Type of Ice: ☒ Wet ☐ Blue ☐ None ☒ Samples on ice, cooling process has begun

Cooler Temp Read °C: 1.1 Cooler Temp Corrected °C: 1.4
Temp should be above freezing to 6°C Correction Factor: 0.3

Biological Tissue Frozen? ☐ Yes ☐ No ☒ NA

Date and Initials of Person Examining Contents: 3-16-16

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix:	WT	
-All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review:

Date: 3/16/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)